

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 09/857,58/C
Source: 1FW/b
Date Processed by STIC: 6/27/06

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 09/857,581C

CRF Edit Date: 6/27/06
Edited by: h

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other:



IFW16

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:52:46

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3 <110> APPLICANT: Fader, Gary M.
 4 Jung, Woosuk
 5 Brian, McGonigle
 6 Odell, Joan T.
 7 Yu, Xiaodan
 9 <120> TITLE OF INVENTION: Nucleic Acid Fragments Encoding Isoflavone Synthase
 11 <130> FILE REFERENCE: BB1339RCE
 13 <140> CURRENT APPLICATION NUMBER: 09/857,581C
 C--> 14 <141> CURRENT FILING DATE: 2001-06-05
 16 <150> PRIOR APPLICATION NUMBER: PCT/US00/01772
 17 <151> PRIOR FILING DATE: 2000-01-26
 19 <150> PRIOR APPLICATION NUMBER: 60/117,769
 20 <151> PRIOR FILING DATE: 1999-01-27
 22 <150> PRIOR APPLICATION NUMBER: 60/144,783
 23 <151> PRIOR FILING DATE: 1990-07-20
 25 <150> PRIOR APPLICATION NUMBER: 60/156,094
 26 <151> PRIOR FILING DATE: 1999-09-24
 28 <160> NUMBER OF SEQ ID NOS: 66
 30 <170> SOFTWARE: PatentIn version 3.3
 32 <210> SEQ ID NO: 1
 33 <211> LENGTH: 1756
 34 <212> TYPE: DNA
 35 <213> ORGANISM: Glycine max
 37 <400> SEQUENCE: 1
 38 gtaattaacc tcaactcaaac tcgggatcac agaaaccaac aacagttctt gcactgaggt 60
 39 ttcacgatgt tgctggaact tgcacttggt ttgttttgtt tagctttggt tctgcacttg 120
 40 cgtccacacac caagtgcaaa atcaaaagca cttcgccacc tcccaaacc tccaagccca 180
 41 aagcctcgtc ttcccttcat tggccacctt cacctcttaa aagataaact tctccactat 240
 42 gcactcatcg atctctccaa aaagcatggc cccttattct ctctctcctt cggctccatg 300
 43 ccaaccgtcg ttgcctccac cctgagttg ttcaagctct tctccaaac ccacgaggca 360
 44 acttctctca acacaaggtt ccaaacctct gccataagac gcctcactta cgacaactct 420
 45 gtggccatgg ttccattcgg accttactgg aagttcgtga ggaagctcat catgaacgac 480
 46 cttctcaacg ccaccaccgt caacaagctc aggcctttga ggaccaaca gatccgcaag 540
 47 ttctttaggg ttatggccca aagcgcagag gcccagaagc cccttgacgt caccgaggag 600
 48 cttctcaaat ggaccaacag caccatctcc atgatgatgc tcggcgaggc tgaggagatc 660
 49 agagacatcg ctgcgaggt tcttaagatc ttcggcgaat acagcctcac tgacttcac 720
 50 tggcctttga agtatctcaa ggttggaag tatgagaaga ggattgatga catcttgaa 780
 51 aagttcgacc ctgtcgttga aagggtcatc aagaagcgcc gtgagatcgt cagaaggaga 840
 52 aagaacggag aagttgttga gggcgaggcc agcggcgtct tctcgcacac tttgcttgaa 900
 53 ttcgctgagg acgagaccat ggagatcaaa attaccaagg agcaaatcaa gggccttggt 960
 54 gtcgactttt tctctgcagg gacagattcc acagcgggtg caacagagtg ggcattggca 1020
 55 gagctcatca acaatcccag ggtgttgcaa aaggctcgtg aggaggtcta cagtgttgtg 1080
 56 ggcaaagata gactcgttga cgaagttgac actcaaaacc ttccttacat tagggccatt 1140

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/857,581C

DATE: 06/27/2006

TIME: 16:52:46

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06272006\I857581C.raw

```

57 gtgaaggaga cattccgaat gcacccacca ctcccagtggt tcaaaagaaa gtgcacagaa 1200
58 gagtgtgaga ttaatgggta tgtgatccca gagggagcat tggttctttt caatgttttg 1260
59 caagtaggaa gggaccccaa atactgggac agaccatcag aattccgtcc cgagagggttc 1320
60 ttagaaactg gtgctgaagg ggaagcaggg cctcttgatc ttagggggcca gcatttccaa 1380
61 ctctctccat ttgggtcttg gaggagaatg tgccctggtg tcaatttggc tacttcagga 1440
62 atggcaacac ttcttgcatc tcttatccaa tgctttgacc tgcaagtgtc gggccctcaa 1500
63 ggacaaatat tgaaaggtga tgatgccaaa gttagcatgg aagagagagc tggcctcaca 1560
64 gttccaaggg cacatagtct cgtttgtgtt ccacttgcaa ggatcggcgt tgcactctaa 1620
65 ctcttttctt aattaagata atcatcatat acaatagtag tgtcttgcca tcgcagttgc 1680
66 tttttatgta ttcataatca tcatttcaat aagggtgtgac tgggtacttaa tcaagtaatt 1740
67 aaggttacat acatgc 1756
69 <210> SEQ ID NO: 2
70 <211> LENGTH: 521
71 <212> TYPE: PRT
72 <213> ORGANISM: Glycine max
74 <400> SEQUENCE: 2
75 Met Leu Leu Glu Leu Ala Leu Gly Leu Phe Val Leu Ala Leu Phe Leu
76 1 5 10 15
78 His Leu Arg Pro Thr Pro Ser Ala Lys Ser Lys Ala Leu Arg His Leu
79 20 25 30
81 Pro Asn Pro Pro Ser Pro Lys Pro Arg Leu Pro Phe Ile Gly His Leu
82 35 40 45
84 His Leu Leu Lys Asp Lys Leu Leu His Tyr Ala Leu Ile Asp Leu Ser
85 50 55 60
87 Lys Lys His Gly Pro Leu Phe Ser Leu Ser Phe Gly Ser Met Pro Thr
88 65 70 75 80
90 Val Val Ala Ser Thr Pro Glu Leu Phe Lys Leu Phe Leu Gln Thr His
91 85 90 95
93 Glu Ala Thr Ser Phe Asn Thr Arg Phe Gln Thr Ser Ala Ile Arg Arg
94 100 105 110
96 Leu Thr Tyr Asp Asn Ser Val Ala Met Val Pro Phe Gly Pro Tyr Trp
97 115 120 125
99 Lys Phe Val Arg Lys Leu Ile Met Asn Asp Leu Leu Asn Ala Thr Thr
100 130 135 140
102 Val Asn Lys Leu Arg Pro Leu Arg Thr Gln Gln Ile Arg Lys Phe Leu
103 145 150 155 160
105 Arg Val Met Ala Gln Ser Ala Glu Ala Gln Lys Pro Leu Asp Val Thr
106 165 170 175
108 Glu Glu Leu Leu Lys Trp Thr Asn Ser Thr Ile Ser Met Met Met Leu
109 180 185 190
111 Gly Glu Ala Glu Glu Ile Arg Asp Ile Ala Arg Glu Val Leu Lys Ile
112 195 200 205
114 Phe Gly Glu Tyr Ser Leu Thr Asp Phe Ile Trp Pro Leu Lys Tyr Leu
115 210 215 220
117 Lys Val Gly Lys Tyr Glu Lys Arg Ile Asp Asp Ile Leu Asn Lys Phe
118 225 230 235 240
120 Asp Pro Val Val Glu Arg Val Ile Lys Lys Arg Arg Glu Ile Val Arg
121 245 250 255
123 Arg Arg Lys Asn Gly Glu Val Val Glu Gly Glu Ala Ser Gly Val Phe

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/857,581C

DATE: 06/27/2006

TIME: 16:52:46

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06272006\I857581C.raw

```

124          260          265          270
126 Leu Asp Thr Leu Leu Glu Phe Ala Glu Asp Glu Thr Met Glu Ile Lys
127          275          280          285
129 Ile Thr Lys Glu Gln Ile Lys Gly Leu Val Val Asp Phe Phe Ser Ala
130          290          295          300
132 Gly Thr Asp Ser Thr Ala Val Ala Thr Glu Trp Ala Leu Ala Glu Leu
133 305          310          315          320
135 Ile Asn Asn Pro Arg Val Leu Gln Lys Ala Arg Glu Glu Val Tyr Ser
136          325          330          335
138 Val Val Gly Lys Asp Arg Leu Val Asp Glu Val Asp Thr Gln Asn Leu
139          340          345          350
141 Pro Tyr Ile Arg Ala Ile Val Lys Glu Thr Phe Arg Met His Pro Pro
142          355          360          365
144 Leu Pro Val Val Lys Arg Lys Cys Thr Glu Glu Cys Glu Ile Asn Gly
145          370          375          380
147 Tyr Val Ile Pro Glu Gly Ala Leu Val Leu Phe Asn Val Trp Gln Val
148 385          390          395          400
150 Gly Arg Asp Pro Lys Tyr Trp Asp Arg Pro Ser Glu Phe Arg Pro Glu
151          405          410          415
153 Arg Phe Leu Glu Thr Gly Ala Glu Gly Glu Ala Gly Pro Leu Asp Leu
154          420          425          430
156 Arg Gly Gln His Phe Gln Leu Leu Pro Phe Gly Ser Gly Arg Arg Met
157          435          440          445
159 Cys Pro Gly Val Asn Leu Ala Thr Ser Gly Met Ala Thr Leu Leu Ala
160          450          455          460
162 Ser Leu Ile Gln Cys Phe Asp Leu Gln Val Leu Gly Pro Gln Gly Gln
163 465          470          475          480
165 Ile Leu Lys Gly Asp Asp Ala Lys Val Ser Met Glu Glu Arg Ala Gly
166          485          490          495
168 Leu Thr Val Pro Arg Ala His Ser Leu Val Cys Val Pro Leu Ala Arg
169          500          505          510
171 Ile Gly Val Ala Ser Lys Leu Leu Ser
172          515          520

```

174 <210> SEQ ID NO: 3

175 <211> LENGTH: 27

176 <212> TYPE: DNA

177 <213> ORGANISM: Artificial Sequence

179 <220> FEATURE:

180 <223> OTHER INFORMATION: Oligonucleotide primer used in construction of WHT1

182 <400> SEQUENCE: 3

183 cgggatccat gcaaccggaa accgtcg

27

185 <210> SEQ ID NO: 4

186 <211> LENGTH: 32

187 <212> TYPE: DNA

188 <213> ORGANISM: Artificial Sequence

190 <220> FEATURE:

191 <223> OTHER INFORMATION: Oligonucleotide primer used in construction of yeast strain

WHT1

193 <400> SEQUENCE: 4

194 ccggaattct caccaaacat cacggaggta tc

32

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/857,581C

DATE: 06/27/2006

TIME: 16:52:46

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06272006\I857581C.raw

```

196 <210> SEQ ID NO: 5
197 <211> LENGTH: 47
198 <212> TYPE: DNA
199 <213> ORGANISM: Artificial Sequence
201 <220> FEATURE:
202 <223> OTHER INFORMATION: Oligonucleotide primer
204 <400> SEQUENCE: 5
205 tcaaggagaa aaaaccccg atccatgttg ctggaacttg cacttgg      47
207 <210> SEQ ID NO: 6
208 <211> LENGTH: 35
209 <212> TYPE: DNA
210 <213> ORGANISM: Artificial Sequence
212 <220> FEATURE:
213 <223> OTHER INFORMATION: Oligonucleotide primer
215 <400> SEQUENCE: 6
216 ggccagtga ttgtaatacg actcactata gggcg      35
218 <210> SEQ ID NO: 7
219 <211> LENGTH: 24
220 <212> TYPE: DNA
221 <213> ORGANISM: Artificial Sequence
223 <220> FEATURE:
224 <223> OTHER INFORMATION: Oligonucleotide primer
226 <400> SEQUENCE: 7
227 aaaattagcc tcacaaaagc aaag      24
229 <210> SEQ ID NO: 8
230 <211> LENGTH: 27
231 <212> TYPE: DNA
232 <213> ORGANISM: Artificial Sequence
234 <220> FEATURE:
235 <223> OTHER INFORMATION: Oligonucleotide primer
237 <400> SEQUENCE: 8
238 atataaggat tgatagttta tagtagg      27
240 <210> SEQ ID NO: 9
241 <211> LENGTH: 1824
242 <212> TYPE: DNA
243 <213> ORGANISM: Glycine max
245 <400> SEQUENCE: 9
246 ggaaaattag cctcacaaaa gcaaagatca aacaaaccaa ggacgagaac acgatgttgc      60
247 ttgaacttgc acttggttta ttgggttttg ctctgtttct gcacttgcggt cccacaccca      120
248 ctgcaaaatc aaaagcactt cgccatctcc caaaccaccc aagcccaaag cctcgtcttc      180
249 ccttcatagg acaccttcat ctcttaaaag acaaacttct ccactacgca ctcacgacc      240
250 tctccaaaaa acatggtccc ttattctctc tctacttttg ctccatgcca accgttggtg      300
251 cctccacacc agaattgttc aagctcttcc tccaaacgca cgaggcaact tccttcaaca      360
252 caaggttcca aacctcagcc ataagacgcc tcacctatga tagctcagtg gccatggttc      420
253 ccttcggacc ttactggaag ttctgtgagga agctcatcat gaacgacctt cccaacgcca      480
254 ccactgtaaa caagttgagg cctttgagga cccaacagac ccgcaagttc cttagggtta      540
255 tggcccaagg cgcagaggca cagaagcccc ttgacttgac cgaggagctt ctgaaatgga      600
256 ccaacagcac catctccatg atgatgctcg gcgaggctga ggagatcaga gacatcgctc      660
257 gcgaggttct taagatcttt ggcgaatata gcctcactga cttcatctgg ccattgaagc      720

```

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:52:46

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06272006\I857581C.raw

```

258 atctcaaggt tggaaagtat gagaagagga tcgacgacat cttgaacaag ttcgaccctg      780
259 tcgttgaaag ggcatcaag aagcgccgtg agatcgtgag gaggagaaag aacggagagg      840
260 ttgttgaggg tgaggtcagc ggggttttcc ttgacacttt gcttgaattc gctgaggatg      900
261 agaccatgga gatcaaaatc accaaggacc acatcgaggg tcttggtgtc gactttttct      960
262 cggcaggaac agactccaca gcggtggcaa cagagtgggc attggcagaa ctcatcaaca     1020
263 atcctaaggt gttggaaaag gctcgtgagg aggtctacag tgttgtggga aaggacagac     1080
264 ttgtggacga agttgacact caaaaccttc cttacattag agcaatcgtg aaggagacat     1140
265 tccgcatgca cccgccactc ccagtgggtc aaagaaagtg cacagaagag tgtgagatta     1200
266 atggatatgt gatcccagag ggagcattga ttctcttcaa tgtatggcaa gtaggaagag     1260
267 accccaaata ctgggacaga ccatcgaggt tccgtcctga gaggttccta gagacagggg     1320
268 ctgaagggga agcagggcct cttgatctta ggggacaaca ttttcaactt ctcccatttg     1380
269 ggtctgggag gagaatgtgc cctggagtca atctggctac ttcgggaatg gcaacacttc     1440
270 ttgcatctct tattcagtgc ttcgacttgc aagtgtctggg tccacaagga cagatattga     1500
271 aggggtgggtga cgccaaagtt agcatggaag agagagccgg cctcactgtt ccaagggcac     1560
272 atagtcttgt ctgtgttcca cttgcaagga tcggcggtgc atctaaactc ctttcttaat     1620
273 taagatcatc atcatatata atatttactt tttgtgtgtt gataatcatc atttcaataa     1680
274 ggtctcggtc atctactttt tatgaagtat ataagccctt ccatgcacat tgtatcatct     1740
275 cccatttgct ttcgtttgct acctaaggca atcttttttt ttttagaatc acatcatcct     1800
276 actataaact atcaatcctt atat                                     1824

```

278 <210> SEQ ID NO: 10

279 <211> LENGTH: 521

280 <212> TYPE: PRT

281 <213> ORGANISM: Glycine max

283 <400> SEQUENCE: 10

```

284 Met Leu Leu Glu Leu Ala Leu Gly Leu Leu Val Leu Ala Leu Phe Leu
285 1          5          10          15
287 His Leu Arg Pro Thr Pro Thr Ala Lys Ser Lys Ala Leu Arg His Leu
288          20          25          30
290 Pro Asn Pro Pro Ser Pro Lys Pro Arg Leu Pro Phe Ile Gly His Leu
291          35          40          45
293 His Leu Leu Lys Asp Lys Leu Leu His Tyr Ala Leu Ile Asp Leu Ser
294          50          55          60
296 Lys Lys His Gly Pro Leu Phe Ser Leu Tyr Phe Gly Ser Met Pro Thr
297 65          70          75          80
299 Val Val Ala Ser Thr Pro Glu Leu Phe Lys Leu Phe Leu Gln Thr His
300          85          90          95
302 Glu Ala Thr Ser Phe Asn Thr Arg Phe Gln Thr Ser Ala Ile Arg Arg
303          100         105         110
305 Leu Thr Tyr Asp Ser Ser Val Ala Met Val Pro Phe Gly Pro Tyr Trp
306          115         120         125
308 Lys Phe Val Arg Lys Leu Ile Met Asn Asp Leu Pro Asn Ala Thr Thr
309          130         135         140
311 Val Asn Lys Leu Arg Pro Leu Arg Thr Gln Gln Thr Arg Lys Phe Leu
312 145         150         155         160
314 Arg Val Met Ala Gln Gly Ala Glu Ala Gln Lys Pro Leu Asp Leu Thr
315          165         170         175
317 Glu Glu Leu Leu Lys Trp Thr Asn Ser Thr Ile Ser Met Met Met Leu
318          180         185         190
320 Gly Glu Ala Glu Glu Ile Arg Asp Ile Ala Arg Glu Val Leu Lys Ile

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/27/2006
PATENT APPLICATION: US/09/857,581C TIME: 16:52:48

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF4\06272006\I857581C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:66; Xaa Pos. 10,16,23,25,39,48,60,73,74,95,96,102,110,112,117,118,121
Seq#:66; Xaa Pos. 122,124,129,147,159,162,166,170,175,183,187,191,209,219
Seq#:66; Xaa Pos. 223,253,259,263,264,268,272,285,292,293,294,301,306,311
Seq#:66; Xaa Pos. 312,325,328,329,334,342,377,381,385,387,393,394,402,404
Seq#:66; Xaa Pos. 413,422,428,429,435,447,453,459,485

VERIFICATION SUMMARY

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:52:48

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06272006\I857581C.raw

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:3460 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0

M:341 Repeated in SeqNo=66

**Raw Sequence Listing before editing
(for reference only)**



IFW16

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:25

Input Set : A:\corrected seq lst 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3 <110> APPLICANT: Fader, Gary M.
 4 Jung, Woosuk
 5 Brian, McGonigle
 6 Odell, Joan T.
 7 Yu, Xiaodan
 9 <120> TITLE OF INVENTION: Nucleic Acid Fragments Encoding Isoflavone Synthase
 11 <130> FILE REFERENCE: BB1339RCE
 13 <140> CURRENT APPLICATION NUMBER: 09/857,581C
 C--> 14 <141> CURRENT FILING DATE: 2001-06-05
 16 <150> PRIOR APPLICATION NUMBER: PCT/US00/01,772
 17 <151> PRIOR FILING DATE: 2000-01-26
 19 <150> PRIOR APPLICATION NUMBER: 60/117,769
 20 <151> PRIOR FILING DATE: 1999-01-27
 22 <150> PRIOR APPLICATION NUMBER: 60/144,783
 23 <151> PRIOR FILING DATE: 1990-07-20
 25 <150> PRIOR APPLICATION NUMBER: 60/156,094
 26 <151> PRIOR FILING DATE: 1999-09-24
 28 <160> NUMBER OF SEQ ID NOS: 66
 30 <170> SOFTWARE: PatentIn version 3.3

Does Not Comply
Corrected Diskette Needed

ERRORED SEQUENCES

3110 <210> SEQ ID NO: 66
 3111 <211> LENGTH: 521
 3112 <212> TYPE: PRT
 3113 <213> ORGANISM: Artificial Sequence
 3115 <220> FEATURE:
 3116 <223> OTHER INFORMATION: Consensus sequence
 3118 <220> FEATURE:
 3119 <221> NAME/KEY: MISC_FEATURE
 3120 <222> LOCATION: (10)..(10)
 3121 <223> OTHER INFORMATION: Xaa= Phe or Leu
 3123 <220> FEATURE:
 3124 <221> NAME/KEY: MISC_FEATURE
 3125 <222> LOCATION: (16)..(16)
 3126 <223> OTHER INFORMATION: Xaa=Ser or Leu
 3128 <220> FEATURE:
 3129 <221> NAME/KEY: MISC_FEATURE
 3130 <222> LOCATION: (23)..(23)
 3131 <223> OTHER INFORMATION: Xaa=Ser or Thr
 3133 <220> FEATURE:
 3134 <221> NAME/KEY: MISC_FEATURE

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq lst 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3135 <222> LOCATION: (25)..(25) /
3136 <223> OTHER INFORMATION: Xaa=Ile or Lys
3138 <220> FEATURE:
3139 <221> NAME/KEY: MISC_FEATURE
3140 <222> LOCATION: (39)..(39) /
3141 <223> OTHER INFORMATION: Xaa=Lys or Arg
3143 <220> FEATURE:
3144 <221> NAME/KEY: MISC_FEATURE
3145 <222> LOCATION: (48)..(48) /
3146 <223> OTHER INFORMATION: Xaa=Pro or Leu
3148 <220> FEATURE:
3149 <221> NAME/KEY: MISC_FEATURE
3150 <222> LOCATION: (60)..(60) /
3151 <223> OTHER INFORMATION: Xaa=Pro or Leu
3153 <220> FEATURE:
3154 <221> NAME/KEY: MISC_FEATURE
3155 <222> LOCATION: (73)..(73) /
3156 <223> OTHER INFORMATION: Xaa=Leu or His
3158 <220> FEATURE:
3159 <221> NAME/KEY: MISC_FEATURE
3160 <222> LOCATION: (74)..(74) /
3161 <223> OTHER INFORMATION: Xaa=Ser or Tyr
3163 <220> FEATURE:
3164 <221> NAME/KEY: MISC_FEATURE
3165 <222> LOCATION: (95)..(95) /
3166 <223> OTHER INFORMATION: Xaa=Ala or Thr
3168 <220> FEATURE:
3169 <221> NAME/KEY: MISC_FEATURE
3170 <222> LOCATION: (96)..(96) /
3171 <223> OTHER INFORMATION: Xaa=Asn or His
3173 <220> FEATURE:
3174 <221> NAME/KEY: MISC_FEATURE
3175 <222> LOCATION: (102)..(102) /
3176 <223> OTHER INFORMATION: Xaa=Asn or Ser
3178 <220> FEATURE:
3179 <221> NAME/KEY: MISC_FEATURE
3180 <222> LOCATION: (110)..(110) /
3181 <223> OTHER INFORMATION: Xaa=Ile, Val, or Thr
3183 <220> FEATURE:
3184 <221> NAME/KEY: MISC_FEATURE - /
3185 <222> LOCATION: (112)..(112)
3186 <223> OTHER INFORMATION: Xaa=Arg or His
3188 <220> FEATURE:
3189 <221> NAME/KEY: MISC_FEATURE
3190 <222> LOCATION: (117)..(117) /
3191 <223> OTHER INFORMATION: Xaa=Asn or Ser
3193 <220> FEATURE:
3194 <221> NAME/KEY: MISC_FEATURE
3195 <222> LOCATION: (118)..(118)

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq lst 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3196 <223> OTHER INFORMATION: Xaa=Ser or Leu
3198 <220> FEATURE:
3199 <221> NAME/KEY: MISC_FEATURE /
3200 <222> LOCATION: (121)..(121)
3201 <223> OTHER INFORMATION: Xaa=Met or Arg
3203 <220> FEATURE:
3204 <221> NAME/KEY: MISC_FEATURE /
3205 <222> LOCATION: (122)..(122)
3206 <223> OTHER INFORMATION: Xaa=Ala or Val
3208 <220> FEATURE:
3209 <221> NAME/KEY: MISC_FEATURE /
3210 <222> LOCATION: (124)..(124)
3211 <223> OTHER INFORMATION: Xaa=Phe or Ile
3213 <220> FEATURE:
3214 <221> NAME/KEY: MISC_FEATURE /
3215 <222> LOCATION: (129)..(129)
3216 <223> OTHER INFORMATION: Xaa=Lys or Arg
3218 <220> FEATURE:
3219 <221> NAME/KEY: MISC_FEATURE /
3220 <222> LOCATION: (147)..(147)
3221 <223> OTHER INFORMATION: Xaa=Lys or Glu
3223 <220> FEATURE:
3224 <221> NAME/KEY: MISC_FEATURE /
3225 <222> LOCATION: (159)..(159)
3226 <223> OTHER INFORMATION: Xaa=Leu or Phe
3228 <220> FEATURE:
3229 <221> NAME/KEY: MISC_FEATURE /
3230 <222> LOCATION: (162)..(162)
3231 <223> OTHER INFORMATION: Xaa=Ala or Val
3233 <220> FEATURE:
3234 <221> NAME/KEY: MISC_FEATURE /
3235 <222> LOCATION: (166)..(166)
3236 <223> OTHER INFORMATION: Xaa=Ser or Gly
3238 <220> FEATURE:
3239 <221> NAME/KEY: MISC_FEATURE /
3240 <222> LOCATION: (170)..(170)
3241 <223> OTHER INFORMATION: Xaa=Gln or Arg
3243 <220> FEATURE:
3244 <221> NAME/KEY: MISC_FEATURE /
3245 <222> LOCATION: (175)..(175)
3246 <223> OTHER INFORMATION: Xaa=Val or Leu
3248 <220> FEATURE:
3249 <221> NAME/KEY: MISC_FEATURE /
3250 <222> LOCATION: (183)..(183)
3251 <223> OTHER INFORMATION: Xaa=Ala or Thr
3253 <220> FEATURE:
3254 <221> NAME/KEY: MISC_FEATURE /
3255 <222> LOCATION: (187)..(187)
3256 <223> OTHER INFORMATION: Xaa=Thr or Ile

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq lst 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3258 <220> FEATURE:
3259 <221> NAME/KEY: MISC_FEATURE
3260 <222> LOCATION: (191)..(191)
3261 <223> OTHER INFORMATION: Xaa=Met or Val
3263 <220> FEATURE:
3264 <221> NAME/KEY: MISC_FEATURE
3265 <222> LOCATION: (209)..(209)
3266 <223> OTHER INFORMATION: Xaa=Phe or Tyr
3268 <220> FEATURE:
3269 <221> NAME/KEY: MISC_FEATURE
3270 <222> LOCATION: (219)..(219)
3271 <223> OTHER INFORMATION: Xaa=Arg or Trp
3273 <220> FEATURE:
3274 <221> NAME/KEY: MISC_FEATURE
3275 <222> LOCATION: (223)..(223)
3276 <223> OTHER INFORMATION: Xaa=Tyr or His
3278 <220> FEATURE:
3279 <221> NAME/KEY: MISC_FEATURE
3280 <222> LOCATION: (253)..(253)
3281 <223> OTHER INFORMATION: Xaa=Gly or Glu
3283 <220> FEATURE:
3284 <221> NAME/KEY: MISC_FEATURE
3285 <222> LOCATION: (259)..(259)
3286 <223> OTHER INFORMATION: Xaa=Lys or Glu
3288 <220> FEATURE:
3289 <221> NAME/KEY: MISC_FEATURE
3290 <222> LOCATION: (263)..(263)
3291 <223> OTHER INFORMATION: Xaa=Val or Asp
3293 <220> FEATURE:
3294 <221> NAME/KEY: MISC_FEATURE
3295 <222> LOCATION: (264)..(264)
3296 <223> OTHER INFORMATION: Xaa=Val, Asp, or Ile
3298 <220> FEATURE:
3299 <221> NAME/KEY: MISC_FEATURE
3300 <222> LOCATION: (268)..(268)
3301 <223> OTHER INFORMATION: Xaa=Ala or Val
3303 <220> FEATURE:
3304 <221> NAME/KEY: MISC_FEATURE
3305 <222> LOCATION: (272)..(272)
3306 <223> OTHER INFORMATION: Xaa=Phe or Leu
3308 <220> FEATURE:
3309 <221> NAME/KEY: MISC_FEATURE
3310 <222> LOCATION: (285)..(285)
3311 <223> OTHER INFORMATION: Xaa=Thr or Met
3313 <220> FEATURE:
3314 <221> NAME/KEY: MISC_FEATURE
3315 <222> LOCATION: (292)..(292)
3316 <223> OTHER INFORMATION: Xaa=ANY AMINO ACID
3318 <220> FEATURE:

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq 1st 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3319 <221> NAME/KEY: MISC_FEATURE
3320 <222> LOCATION: (293)..(293) ✓
3321 <223> OTHER INFORMATION: Xaa=ANY AMINO ACID
3323 <220> FEATURE:
3324 <221> NAME/KEY: MISC_FEATURE
3325 <222> LOCATION: (294)..(294) ✓
3326 <223> OTHER INFORMATION: Xaa=Thr or Ile
3328 <220> FEATURE:
3329 <221> NAME/KEY: MISC_FEATURE
3330 <222> LOCATION: (301)..(301) ✓
3331 <223> OTHER INFORMATION: Xaa=Phe or Leu
3333 <220> FEATURE:
3334 <221> NAME/KEY: MISC_FEATURE
3335 <222> LOCATION: (306)..(306) ✓
3336 <223> OTHER INFORMATION: Xaa=Thr or Ile
3338 <220> FEATURE:
3339 <221> NAME/KEY: MISC_FEATURE
3340 <222> LOCATION: (311)..(311) ✓
3341 <223> OTHER INFORMATION: Xaa=Val or Glu
3343 <220> FEATURE:
3344 <221> NAME/KEY: MISC_FEATURE
3345 <222> LOCATION: (312)..(312) ✓
3346 <223> OTHER INFORMATION: Xaa=Val or Ala
3348 <220> FEATURE:
3349 <221> NAME/KEY: MISC_FEATURE
3350 <222> LOCATION: (325)..(325) ✓
3351 <223> OTHER INFORMATION: Xaa=Arg or Lys
3353 <220> FEATURE:
3354 <221> NAME/KEY: MISC_FEATURE
3355 <222> LOCATION: (328)..(328) ✓
3356 <223> OTHER INFORMATION: Xaa=Gln or Glu
3358 <220> FEATURE:
3359 <221> NAME/KEY: MISC_FEATURE
3360 <222> LOCATION: (329)..(329) ✓
3361 <223> OTHER INFORMATION: Xaa=ANY AMINO ACID
3363 <220> FEATURE:
3364 <221> NAME/KEY: MISC_FEATURE
3365 <222> LOCATION: (334)..(334) ✓
3366 <223> OTHER INFORMATION: Xaa=Val or Ala
3368 <220> FEATURE:
3369 <221> NAME/KEY: MISC_FEATURE
3370 <222> LOCATION: (342)..(342) ✓
3371 <223> OTHER INFORMATION: Xaa=Arg or Ile
3373 <220> FEATURE:
3374 <221> NAME/KEY: MISC_FEATURE
3375 <222> LOCATION: (377)..(377) ✓
3376 <223> OTHER INFORMATION: Xaa=Thr or Ile
3378 <220> FEATURE:
3379 <221> NAME/KEY: MISC_FEATURE

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq lst 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

3380 <222> LOCATION: (381)..(381) ✓
3381 <223> OTHER INFORMATION: Xaa=Glu or Gly
3383 <220> FEATURE:
3384 <221> NAME/KEY: MISC_FEATURE
3385 <222> LOCATION: (385)..(385) ✓
3386 <223> OTHER INFORMATION: Xaa=Tyr, His, or Cys
3388 <220> FEATURE:
3389 <221> NAME/KEY: MISC_FEATURE
3390 <222> LOCATION: (387)..(387) ✓
3391 <223> OTHER INFORMATION: Xaa=Ile or Thr
3393 <220> FEATURE:
3394 <221> NAME/KEY: MISC_FEATURE
3395 <222> LOCATION: (393)..(393) ✓
3396 <223> OTHER INFORMATION: Xaa=Val or Ile
3398 <220> FEATURE:
3399 <221> NAME/KEY: MISC_FEATURE
3400 <222> LOCATION: (394)..(394) ✓
3401 <223> OTHER INFORMATION: Xaa=Leu or Pro
3403 <220> FEATURE:
3404 <221> NAME/KEY: MISC_FEATURE
3405 <222> LOCATION: (402)..(402) ✓
3406 <223> OTHER INFORMATION: Xaa=Arg or Lys
3408 <220> FEATURE:
3409 <221> NAME/KEY: MISC_FEATURE
3410 <222> LOCATION: (404)..(404) ✓
3411 <223> OTHER INFORMATION: Xaa=Ser or Pro
3413 <220> FEATURE:
3414 <221> NAME/KEY: MISC_FEATURE
3415 <222> LOCATION: (413)..(413) ✓
3416 <223> OTHER INFORMATION: Xaa=Ser or Phe
3418 <220> FEATURE:
3419 <221> NAME/KEY: MISC_FEATURE
3420 <222> LOCATION: (422)..(422) ✓
3421 <223> OTHER INFORMATION: Xaa=Glu or Gly
3423 <220> FEATURE:
3424 <221> NAME/KEY: MISC_FEATURE
3425 <222> LOCATION: (428)..(428) ✓
3426 <223> OTHER INFORMATION: Xaa=Gly or Arg
3428 <220> FEATURE:
3429 <221> NAME/KEY: MISC_FEATURE ✓
3430 <222> LOCATION: (429)..(429)
3431 <223> OTHER INFORMATION: Xaa=Pro or Leu
3433 <220> FEATURE:
3434 <221> NAME/KEY: MISC_FEATURE
3435 <222> LOCATION: (435)..(435) ✓
3436 <223> OTHER INFORMATION: Xaa=Gln or Arg
3438 <220> FEATURE:
3439 <221> NAME/KEY: MISC_FEATURE
3440 <222> LOCATION: (447)..(447)

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq lst 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

```

3441 <223> OTHER INFORMATION: Xaa=Arg or Gly
3443 <220> FEATURE:
3444 <221> NAME/KEY: MISC_FEATURE
3445 <222> LOCATION: (453)..(453)
3446 <223> OTHER INFORMATION: Xaa=Asn, Ser, or Ile
3448 <220> FEATURE:
3449 <221> NAME/KEY: MISC_FEATURE
3450 <222> LOCATION: (459)..(459)
3451 <223> OTHER INFORMATION: Xaa=Met or Thr
3453 <220> FEATURE:
3454 <221> NAME/KEY: MISC_FEATURE
3455 <222> LOCATION: (485)..(485)
3456 <223> OTHER INFORMATION: Xaa=Asp or Gly
3458 <400> SEQUENCE: 66
W--> 3460 Met Leu Leu Glu Leu Ala Leu Gly Leu Xaa Val Leu Ala Leu Phe Xaa
3461 1 5 10 15
3463 His Leu Arg Pro Thr Pro Xaa Ala Xaa Ser Lys Ala Leu Arg His Leu
3464 20 25 30
3466 Pro Asn Pro Pro Ser Pro Xaa Pro Arg Leu Pro Phe Ile Gly His Xaa
3467 35 40 45
3469 His Leu Leu Lys Asp Lys Leu Leu His Tyr Ala Xaa Ile Asp Leu Ser
3470 50 55 60
3472 Lys Lys His Gly Pro Leu Phe Ser Xaa Xaa Phe Gly Ser Met Pro Thr
3473 65 70 75 80
3475 Val Val Ala Ser Thr Pro Glu Leu Phe Lys Leu Phe Leu Gln Xaa Xaa
3476 85 90 95
3478 Glu Ala Thr Ser Phe Xaa Thr Arg Phe Gln Thr Ser Ala Xaa Arg Xaa
3479 100 105 110
3481 Leu Thr Tyr Asp Xaa Xaa Val Ala Xaa Xaa Pro Xaa Gly Pro Tyr Trp
3482 115 120 125
3484 Xaa Phe Val Arg Lys Leu Ile Met Asn Asp Leu Leu Asn Ala Thr Thr
3485 130 135 140
3487 Val Asn Xaa Leu Arg Pro Leu Arg Thr Gln Gln Ile Arg Lys Xaa Leu
3488 145 150 155 160
3490 Arg Xaa Met Ala Gln Xaa Ala Glu Ala Xaa Lys Pro Leu Asp Xaa Thr
3491 165 170 175
3493 Glu Glu Leu Leu Lys Trp Xaa Asn Ser Thr Xaa Ser Met Met Xaa Leu
3494 180 185 190
3496 Gly Glu Ala Glu Glu Ile Arg Asp Ile Ala Arg Glu Val Leu Lys Ile
3497 195 200 205
3499 Xaa Gly Glu Tyr Ser Leu Thr Asp Phe Ile Xaa Pro Leu Lys Xaa Leu
3500 210 215 220
3502 Lys Val Gly Lys Tyr Glu Lys Arg Ile Asp Asp Ile Leu Asn Lys Phe
3503 225 230 235 240
3505 Asp Pro Val Val Glu Arg Val Ile Lys Lys Arg Arg Xaa Ile Val Arg
3506 245 250 255
3508 Arg Arg Xaa Asn Gly Glu Xaa Xaa Glu Gly Glu Xaa Ser Gly Val Xaa
3509 260 265 270
3511 Leu Asp Thr Leu Leu Glu Phe Ala Glu Asp Glu Thr Xaa Glu Ile Lys

```

RAW SEQUENCE LISTING

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:26

Input Set : A:\corrected seq 1st 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

```

3512          275          280          285
3514 Ile Thr Lys Xaa Xaa Xaa Lys Gly Leu Val Val Asp Xaa Phe Ser Ala
3515          290          295          300
3517 Gly Xaa Asp Ser Thr Ala Xaa Xaa Thr Glu Trp Ala Leu Ala Glu Leu
3518 305          310          315          320
3520 Ile Asn Asn Pro Xaa Val Leu Xaa Xaa Ala Arg Glu Glu Xaa Tyr Ser
3521          325          330          335
3523 Val Val Gly Lys Asp Xaa Leu Val Asp Glu Val Asp Thr Gln Asn Leu
3524          340          345          350
3526 Pro Tyr Ile Arg Ala Ile Val Lys Glu Thr Phe Arg Met His Pro Pro
3527          355          360          365
3529 Leu Pro Val Val Lys Arg Lys Cys Xaa Glu Glu Cys Xaa Ile Asn Gly
3530 370          375          380
3532 Xaa Val Xaa Pro Glu Gly Ala Leu Xaa Xaa Phe Asn Val Trp Gln Val
3533 385          390          395          400
3535 Gly Xaa Asp Xaa Lys Tyr Trp Asp Arg Pro Ser Glu Xaa Arg Pro Glu
3536          405          410          415
3538 Arg Phe Leu Glu Thr Xaa Ala Glu Gly Glu Ala Xaa Xaa Leu Asp Leu
3539          420          425          430
3541 Arg Gly Xaa His Phe Gln Leu Leu Pro Phe Gly Ser Gly Arg Xaa Met
3542          435          440          445
3544 Cys Pro Gly Val Xaa Leu Ala Thr Ser Gly Xaa Ala Thr Leu Leu Ala
3545          450          455          460
3547 Ser Leu Ile Gln Cys Phe Asp Leu Gln Val Leu Gly Pro Gln Gly Gln
3548 465          470          475          480
3550 Ile Leu Lys Gly Xaa Asp Ala Lys Val Ser Met Glu Glu Arg Ala Gly
3551          485          490          495
3553 Leu Thr Val Pro Arg Ala His Ser Leu Val Cys Val Pro Leu Ala Arg
3554          500          505          510
3556 Ile Gly Val Ala Ser Lys Leu Leu Ser
3557          515          520

```

E--> 3560 59

VERIFICATION SUMMARY

DATE: 06/27/2006

PATENT APPLICATION: US/09/857,581C

TIME: 16:15:27

Input Set : A:\corrected seq 1st 6-19-06.txt

Output Set: N:\CRF4\06272006\I857581C.raw

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:3460 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0

M:341 Repeated in SeqNo=66

L:3560 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:66